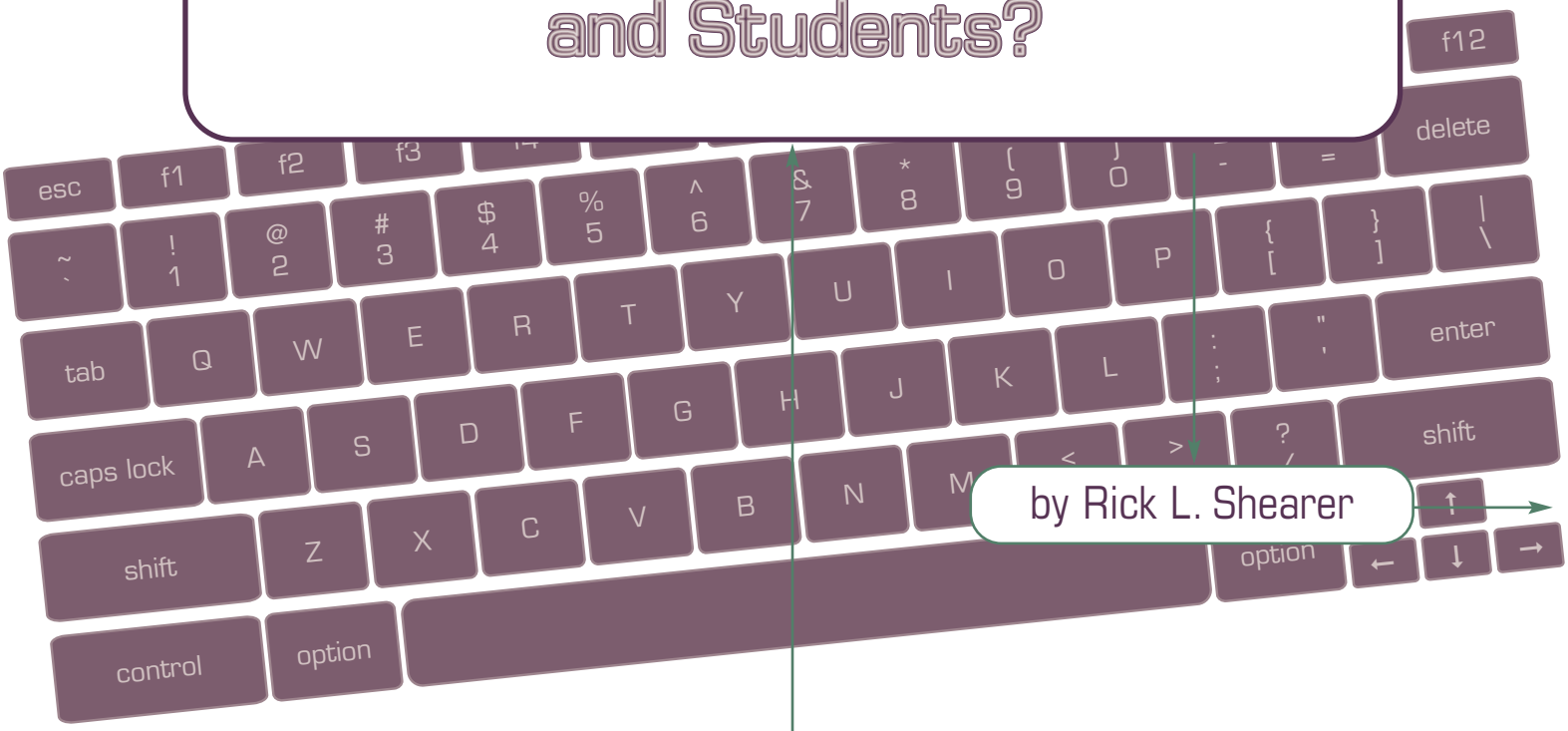
SPECIAL REPORT: Volume 2, Number 2

The Distance Education Balance Sheet:

What are the Measures of Success for Institutions and Students?



by Rick L. Shearer

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Editor's Note

This Special Report is very timely. It is published at a time when institutions of higher education are grappling with increased costs and diminishing financial support from state governments. This has made profitability of distance education a central issue. As institutions of higher education try to meet the demands of their students, one of the most contentious issues continues to be return on investment (ROI) for distance education programs. Many institutions have developed distance education programs from scratch or expanded their existing programs with the hope that distance education would be a profitable venture. However, as Rick L. Shearer will illustrate in the first section of this Special Report, very few organizations have actually turned a profit.

To understand why this promising enterprise has not met the expectations of some of its recent advocates, the author will explore organizational structures of institutions involved in distance education and the impact of these structures on return on investment. It will be demonstrated why, in traditional institutions of higher education where faculty are given great freedom to negotiate the role they wish to play in teaching, research, or offering service activities, administrators of distance education programs are kept in a position of disadvantage to make their programs more economically viable.

Rick Shearer, in the first section of this Special Report, critically questions the capability of higher education institutions that maintain a "traditional" organizational structure to return a profit on the investment they have made in distance education. As such, it is must reading for those who are involved in distance education in higher education.

This Special Report also provides an analysis of forms of distance education programs offered and how these forms impact not only their costs but also access to them by some who may not have certain technologies at their disposal. Other factors, such as class size, revising instructional materials, and mass media delivery systems are discussed in detail and their impact on ROI is analyzed. Tables are presented to show details of income and expenses under certain conditions. These tables are useful to administrators for decision making, as they assess particular situations and consider issues related to budgeting, offering programs, revising instructional materials, or determining optimum number of students under different scenarios.

In the second section, the author turns his attention to the university and college students and analyzes the situation from their point of view. While presenting compelling data on the ever increasing cost of education for students and their families and the inability of institutions of higher education to reduce their cost by applying technology in offering educational services, the author questions the role of distance education in expanding education, especially for the disadvantaged.

The perspective offered by this Special Report accentuates the dilemma of distance educators, most of whom are imbedded in traditional institutions. These institutions have not shown the flexibility that is required to make distance education a solution to outstanding problems of cost and access. Therefore, the question remains: how can distance educators reconcile their role as responsible professionals in such institutions and offer the programs they know can be presented via distant means at a lower cost to students who need them the most?

I hope this Special Report highlights this dilemma for administrators and policy makers in education as well as in executive and legislative bodies throughout the country and motivates them to address the issues presented here. We need to renovate the structure of our institutions to make distance education economically viable and reduce the cost of higher education. Otherwise, as the author will show, higher education, distance or otherwise, will be only within the reach of an ever shrinking socioeconomic elite and the vast majority of the middle class, which benefitted from higher education in the second half of the 20th century, and more and more of the lower class, which has traditionally been limited by socioeconomic barriers, will be denied a rewarding higher education as the 21st century unfolds.

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by Rick Shearer

The Distance Education Balance Sheet:

What are the Measures of Success for Institutions and Students?

Section I

The Impact of Organizational Structure on Return on Investment in Distance Education

Over the past six years, the United States has seen a tremendous growth in the number of institutions offering courses and programs at a distance and a severe fallout in terms of companies and organizations going out of business or merging. We have witnessed institutions like MIT moving to an open source content approach, where all core lecture material is available online at no charge (Price 2003), and Ivy League schools like Harvard bowing to the popularity of online education (Forelle 2003). While there have been some corporate success stories, such as learning management system providers WebCT and Blackboard, there have also been a number of failures at the institutional level. Of note are the demise of Fathom at Columbia University (Mitchell 2003), UNEXT at Cardean University (Johnsson 2001), and New York University Online (Carnevale 2001). Other institutions of higher education, like Penn State's World Campus and University of Maryland University College, have built upon their long-standing distance education infrastructures and have meet with some success, but still find it hard to capitalize on the structure of the online learning model. Also, there is no doubt that the Apollo Group's University of Phoenix Online and Capella University have found for-profit formulas that are working. In July 2003, the U.S. Department of Education reported

that in the academic year 2000-2001, 90% of public two-year and 89% of public four-year institutions offered distance education courses and that the number of enrollments in these courses increased from 754,000 in 1995 to 1.6 million in 1997-1998 and doubled again to 3.1 million in 2000-2001 (Waits and Lewis 2003). While one must analyze these figures carefully to discern the actual growth in true distance education courses, as distinct from blended online courses, there is no doubt that growth in the field has been exponential over the past seven years.

All this activity leads one to question whether anyone in traditional higher education is making money in online distance education. As stated in an article by Sarah Carr (2001, 1), "...administrators...are realizing that putting programs online doesn't necessarily bring riches." Further, as discussed by John Daniel (1999, 293),

> Today many people automatically associate the educational use of the newer information and communication technologies with distance learning. This leads them to link three ideas and assume that technology-based teaching will foster distance learning and therefore show productivity gains over classroom methods. There will be widespread disappointment when this assumption proves false, as it usually will.

Also, with college costs increasing by 40% in the last decade (Giegerich 2003), one must question the ability of institutions to implement technology-based education to decrease costs.

What, then, is the key to return on investment in distance education within institutions of higher education and how does an institution's organizational structure impact the likely outcome of a positive return on investment?

Return on Investment

There are a vast number of variables that enter into the equation of return on investment for institutions of higher education. They include the use of full-time or part-time faculty, tenure issues, aspects of intellectual property, compensation for works for hire, and the overall mission of the institution. With such a variety of variables impacting return on investment, it is important to operationalize what is meant by "return on investment" (ROI) for institutions of higher education.

ROI is a concept that is not a common concern for many institutions of higher education. In state-funded nonprofit institutions, where zero-based budgeting or activity-based budgeting is the norm and where budgets are based on anticipated appropriations from the state, the idea of return on investment may be a concern only for those who handle the institution's endowment investments. For most within academic units, the idea of operating under a business model is foreign and the focus of the unit is directed by a concern for simply living within a set fiscal budget based on a formula of FTEs, research funding, and outreach and extension activities. While there are designated cost centers at institutions of higher education that must cover their cost through intra-department chargebacks, these units are not necessarily engrossed with the idea of return on investment. Operations of these units are often supported by soft monies that move among departments and not with hard cash outlays to outside vendors.

However, the vast investments required in infrastructure, people, and equipment to support online learning at a distance and the increased reductions in state budget appropriations for higher education demand that many institutions ensure a return on investment for new online learning initiatives. Institutions want to make sure that online learning and distance education are areas where they should invest limited resources. This is especially true for colleges and universities that witnessed the early endeavors of institutions that bought into the dot-com hype of the late 1990s. With the perception of increased enrollments and increased tuition revenue, many institutions of higher education ventured into online distance education without a solid understanding of the complexities of offering courses at a distance or of the realities of return on investments.

Within traditional financial management, models of ROI or return on total assets (Weston and Brigham 1982) have been a common measure of investment potential and of an organization's financial health for many years. These models are based on pure dollars returned as a percentage of dollars invested. Or simply put, if company A invests $100K in a new venture and after X years has a net return of $10K in present value dollars, then the ROI is 10%. This fiscal measure of ROI has been a mainstay within capital asset management; however, as the concept of human resource capital has become more popular throughout the 1980s and 1990s, the focus within corporate training units has moved away from a strict fiscal ROI measure and toward a measure of increased human capital productivity as a return for the organization. This concern for increased productivity of staff, as a measure of ROI or cost/benefit analysis, is now common in the literature on training benefits. However, as discussed by Brown (2001, 1),

> ...it is difficult to show direct correlation between training and changes in sales volume, productivity, and other profit measures...there are many areas of productivity that are intangible and difficult to quantify, such as ideas, abilities, experience, insight, motivation, and so forth.

Therefore, training units within organizations still rely upon a fiscal measure to show ROI and have been able to demonstrate actual cost savings in training through the incorporation of two-way video teleconferencing or online e-learning

(Walker 1998). Although these savings have been measured in terms of cost reductions in travel and lodging, the bottom-line results are tangible to CEOs. Aldrich (2002) discusses that, even within the popular Kirkpatrick training cost/benefit scale, return on investment financially, which is the fifth level, is still the primary indicator of successful returns on monies invested in training.

Return on investment can therefore be discussed and measured in a number of ways, from increased staff productivity, to increased political support, to actual monetary returns. However, institutions of higher education looking at distance education or online learning tend to be primarily interested in the monetary measure of ROI or cost/benefit analysis, which manifests itself in terms of increased tuition revenues from students not previously served. Although institutions of higher education are interested in the soft returns on investment (prestige, integration of technology into resident instruction courses, etc.) that distance education may bring to students and faculty and the added gains for resident students who may take advantage of online programs, these returns tend to be intangibles that are not measured. With several academic programs at many institutions already taxed in terms of faculty time to support resident students, the return on distance education must be financial and not merely altruistic. Therefore, for the purpose of this report, return on investment will be viewed in the traditional financial sense and we will look at how organizational structure impacts the possibility of a positive ROI.

"With several academic programs at many institutions already taxed in terms of faculty time to support resident students, the return on distance education must be financial and not merely altruistic."

Organizational Structures

Traditional Higher Education

As discussed by Baldridge, Curtis, Ecker, and Riley (2000), a traditional university or college is actually a mix of hierarchical, professional, and political organizational structures. A professional or a professional bureaucracy structure is defined as an organizational structure where "...professionals control their own work, but they also seek collective control of the administrative decisions that affect them" (Mintzberg 2000). The political structure is one where the concern is goal setting within a political arena of conflict of values among competing interest groups (Baldridge, Curtis, Ecker, and Riley 2000). Mintzberg (2000) further states that professionals have the best of both worlds. They are attached to an organization, yet free to serve their clients in their own way. In examining these three competing concepts of organizational structures—hierarchical, political, and professional—that exist in traditional universities and colleges, it is no wonder that many feel institutions of higher education are in fact structures of organized anarchy (Cohen and March 2000).

Weick (2000), in conceptualizing an alternate view of organizational structure for institutions of higher education, saw them as neither bureaucratic corporate organizations nor purely professional, but a mix of loosely coupled entities. On the administrative side, a bureaucratic structure with well-defined lines of authority and reporting is observed; on the academic side, groups of loosely coupled professional structures, the academic units, exist. One then witnesses a series of politically negotiated events between academic units and administration that act as the glue that holds the bureaucratic and professional systems together.

Figure 1 conceptualizes this structure of loosely coupled entities, where solid lines represent direct lines of authority and reporting and dashed lines represent negotiated events between administration and academic units. This systems view of the organization highlights the continuous feedback loops in place between academic units and administration and the required political give-and-take that must occur to move agendas and projects forward. This conceptual model represents the negotiation process required in order to obtain buy-in of the faculty, faculty senate, and graduate councils in order to move any new program or agenda forward without it becoming lost in a political stalemate.

When we examine the structure in Figure 1, we see that distance education can fit into the structure as an academic unit or as an administrative unit. If we view distance education as an administrative unit, then within this proposed view of an institution's organizational structure, we can conceptualize a distance education unit as a traditional bureaucratic entity that must participate in a series of negotiated events with various academic units in order to promote its agenda and move the unit forward. Here, the distance education unit would have a VP or fall under one of the other administrative VPs and would operate as a bureaucratic entity within the organization. While the distance education initiative in this scenario may have the required support of upper administration, this alone is not enough to guarantee success of the initiative. If the distance education unit does not negotiate with the academic units and within the academic structure to secure buy-in of the faculty, then the unit is likely to be stalled in efforts to move the initiative forward. In this view, the distance education unit will need to be involved in a long series of negotiated activities with academic units in order to secure buy-in from each of the col-

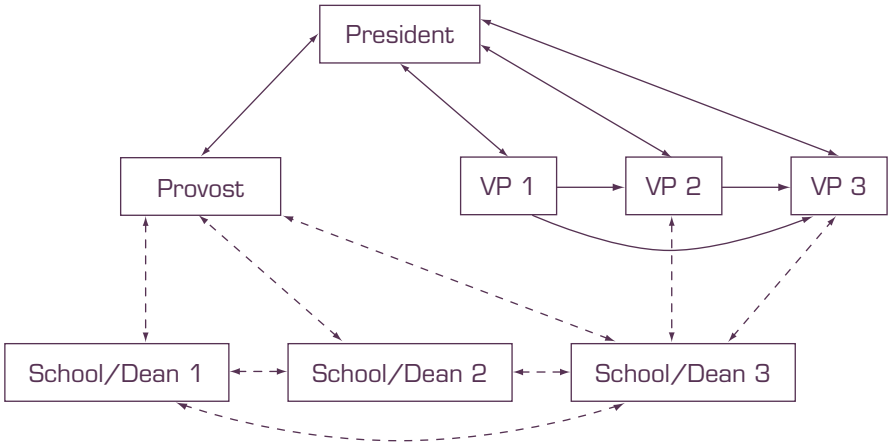

Figure 1: Systems View of a Traditional Institution of Higher Education

leges or departments that make up the structure of loosely coupled entities on the academic side of the institution.

If, however, we view the distance education unit as an academic unit or a separate college of the institution, then a different set of issues arises. In this scenario, the distance education initiative likely has the overall support of faculty, the graduate school, etc. However, as an academic unit initiative, the distance education unit must now convince the administrative bureaucracy to provide funding and other services (student support, financial aid, alternative registration systems, etc.) in support of the project. Further, which academic unit will take the lead on the distance education initiative and does it run the possibility of becoming disjointed, with each academic department or college pursuing distance education in a way that fits its own needs? The danger here is that an ununified front is presented to distance education students, with competition among departments and colleges for funding. It is also likely that this particular scenario may not have longevity, due to shifting interests of faculty within and among departments, and may therefore take a back seat to other priorities in the near future. Further, this scenario still calls for a number of negotiated activities between the loosely structured academic units and the bureaucratic structure of administration.

Non-Traditional Higher Education

While Figure 1 conceptualizes the traditional organizational structure of publicly funded non-profit institutions of higher education, it does not necessarily capture the essence of the organizational structures of for-profit institutions like the University of Phoenix or the structures of non-profit non-traditional universities such as National University in California. In many ways, these organizations operate and are structured as businesses. Although these institutions have full-time faculty, they are more administrative than research-oriented and individual departments tend to be responsible for not only teaching, but also marketing their specific disciplines. Within these organizations, there is a more rigid reporting and authoritative structure between faculty and administration and therefore more control over the faculty agenda. In short, there is a unified mission and sense of shared values. Peter Senge (1990/2000) suggests that this sense of shared values is critical in order for leaders to move the mission of an organization forward. Where each person shares responsibility for the whole and not just one piece. In organizations like the University of Phoenix and National University, we do not see loosely coupled structures as discussed by Weick (1976/2000), but we observe a more traditional corporate bureaucratic and hierarchical structure (Figure 2), a structure where the teaching and research conducted by faculty is focused on meeting the shared values and mission of the organization. Within these organizations, there are set curriculums and they are focused on professional degrees that meet the needs of returning adult students. While research is appreciated, it is not the primary focus; teaching and outreach take center stage. The administrative structure of these organizations allow them to adapt quickly to changing economic training and education needs in society and to pull groups of faculty together around the development of new programs in a time-effective manner.

In the organizational structure depicted in Figure 2, instead of a loosely coupled structure on the academic side, we witness the same bureaucratic/hierarchical structure as on the administrative side. Thus, while feedback loops exist between levels of the organization, there is a top-down structure, but one where most faculty and staff have shared values of purpose and mission. These feedback loops are shown in Figure 2 as solid lines that indicate direct reports, not only between the administrative structures, but between the administrative structures and the academic structure.

Dual Mode vs. Single Mode

In the foregoing discussion, the focus has been on what Daniel (1999) would classify as ad-hoc technology-based teaching institutions or, as Bell and Tight (1993, 129) discussed, the institutions mentioned in the previous section

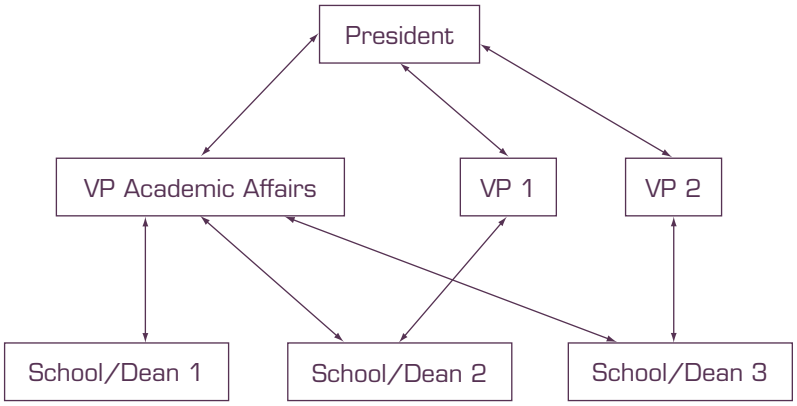

Figure 2: Systems View of a Non-Traditional Institution of Higher Education

would be classified as "institutions which provide a few distance education courses along side their predominantly face-to-face provision." Therefore, the above discussion does not depict either dual-mode or single-mode distance education institutions. While one may argue that the University of Phoenix is a dual-mode institution, true dual-mode institutions, as in Australia, are few. Most institutions have not mainstreamed distance education to the point where an infrastructure exists that allows all courses to be taught to both resident and distant students simultaneously by the same faculty member.

However, there are several single-mode institutions throughout the world, or what have been described as mega universities similar to the China TV University System, Indira Gandhi National Open University in India, the University of South Africa, or Athabasca University in Canada. Although Athabasca is not a mega university by definition, its status is important, as it is a North American example of a single-mode distance education institution. These mega universities and single-mode institutions exemplify organizational structures that are designed to meet the needs of a vast number of students all studying at a distance and are unique to distance education, but have yet to appear in the United States. By definition, mega universities serve over 100,000 students and the primary delivery mode is distance education. In most cases, these organizations use broadcast media or print to deliver courses and obtain an economy of scale. Further, many studies conducted within the countries that support these institutions have shown a 25% to 40% savings on a per-student cost measure when compared with conventional universities in their countries (Daniel 1996).

While the mega universities have relied on the concept of division of labor and an industrialized education model to provide economies of scale and ROI, one must question whether the positive ROI will continue with the integration of new technologies. As these institutions move toward new technologies in an effort to increase timely correspondence/interaction with students, it is questionable whether the observed economies of scale will remain. Will the same number of tutors and faculty be able to handle the increased volume of correspondence over a shorter timeframe?

The division of labor represented within the organizational structures of these institutions has tended to be more corporate-focused and bureaucratic. Individuals within these organizations often have a single focus of shared values and mission. Their purpose is to serve those students disenfranchised from the residency experience. Single-mode institutions work as well-oiled machines in order to serve the vast number of students enrolled at the institutions and rely on a vast distributed network of tutors and learning centers to provide the students with a quality educational experience. This division of labor between design and development of the courses and the teaching of the course content has allowed for the vast economies of scale and ROI. However, it is important to note that most, if not all, of the mega universities are government-based and -funded. While the mega universities often cover all their costs, it is not a focus for the institutions to necessarily show a ROI, as their primary mission is education to the educationally disenfranchised. Outside the United States these mega distance education institutions have become well respected within their countries, however, small single-mode institutions within the United States tend to suffer from a credibility stigma.

Impact of Organizational Structure on Return on Investment for Distance Education

Traditional Public Institutions of Higher Education

Within traditional institutions that are a blend of hierarchical, professional, and political organizational structures, any distance education initiative, if viewed as a mainstream function of the institution and not a separately funded extension arm of the college or university, is by design a

Income/Expense	20 Students	30 Students	100 Students	
Tuition ($1,000 per student)	$20,000	$30,000	$100,000	
Faculty	$10,000	$10,000	$10,000	
Instructional Design Costs	$3,000	$3,000	$3,000	
Marketing	$2,000	$3,000	$5,000	
Infrastructure	$1,000	$1,000	$1,000	
Total Fixed Costs	*$16,000*	*$17,000*	*$19,000*	
Student Services ($150/student)	$3,000	$4,500	$15,000	
Teaching Assistant (if > 30 students)			$8,000	(assumes 2 @ $4,000)
Overhead (15% of Expenses)	$2,850	$3,225	$6,300	
Total Variable Costs	*$5,850*	*$7,725*	*$29,300*	
Total Costs	$21,850	$24,725	$48,300	
Net Income/Loss	*($1,850)*	*$5,275*	*$51,700*	

Table 1. Impact of Class Size on ROI

negotiated initiative between administration and the academic units. To move the initiative forward becomes a balancing act between what works well for the individual faculty and departments, in terms of tenure review, release time, and course schedules, and what works best for the distance education unit and the students, in terms of course design, structure, and economies of scale. How this blend of organizational structures impacts ROI in distance education is a source of concern for distance education units, especially if they are expected to show return on investment and cover their cost structures. If every step forward is a negotiated event, then these units cannot predict economies of scale in course design and delivery and cannot control costs of faculty, time to market, revisions, etc.

Distance education units similar to Penn State's World Campus and the politically negotiated activity within the institutions' organizational structure exemplify these concerns and how the structure impacts control over ROI. As a mainstreamed university initiative, the World Campus is entrusted with delivering the same academic programs that exist in residence to students outside of the state of Pennsylvania and ensuring that the same quality standards of education are meet. To do so means it must rely on the cadre of full-time faculty present within the university structure. However, as Wolcott (1997) indicates, there is a resistance on the part of tenure-track faculty to participate in distance education initiatives, as these online initiatives have not become part of the promotion and tenure review process. Thus, most distance education units must rely on senior tenured faculty to help support the distance education initiative. This is a primary concern for ROI, as full-time faculty, as independent agents, are extremely busy and in a position to negotiate with administration for greater release time, extra compensation, and royalties. Although policies are negotiated between administration and the academic vice president/provost and ratified by other boards and councils, there is no guarantee that every college or academic department will buy into the proposed plan. Therefore, it is not unusual that an organizational structure of loosely coupled entities leads to a series of agreements, each negotiated separately with individual academic departments. In this scenario, the distance education unit ends up with separate payment schedules, course design models, depth of faculty support, and course revision schedules for each program. This situation leads to little control over costs related to class size (enrollments per section), number of sections, and frequency of revisions. With class sizes small, the distance education unit is in a situation where tuition must be increased to cover high fixed costs of development and instruction. Or, if tuition is fixed by the institution, then the small class size does not allow the distance education unit to cover all costs associated with delivery or recover any costs associated with development.

If we set development costs aside for a moment and strictly look at delivery costs, we can see how small class size may impact net income and thus ROI. Table 1 highlights the impact of class size on net income. Here it is assumed that tuition is set at $1,000 per student and that all other income is a pass-through for technology fees, books, etc. Also, it is assumed that the distance education course being offered has run several times on a semester model and changes to the content are currently minimal. Further, calculations in Table 1 assume that, regardless of the class size, only one section of the course will be offered. In this example, which is typical for many U.S. institutions offering an ad-hoc collection of courses online and struggling with faculty compensation plans for distance education sections, and class size, it is apparent how reduced class size will impact net income and

Income/Expense	20 Students	30 Students	100 Students	
Tuition ($1,000 per student)	$20,000	$30, 000	$100,000	
Faculty	$15,000	$15,000	$15,000	
Instructional Design Costs	$6,000	$6,000	$6,000	
Marketing	$2,000	$3,000	$5,000	
Infrastructure	$1,000	$1,000	$1,000	
Total Fixed Costs	*$24,000*	*$25,000*	*$27,000*	
Student Services ($150/student)	$3,000	$4,500	$15,000	
Teaching Assistant (if > 30 students)			$8,000	(assumes 2 @ $4,000)
Overhead (15% of Expenses)	$4,050	$4,425	$7,500	
Total Variable Costs	*$7,050*	*$8,925*	*$30,500*	
Total Costs	$31,050	$33,925	$57,500	
Net Income/Loss	*($11,050)*	*($3,925)*	*$42,500*	
Initial Investment in Development	$50,000	$50,000	$50,000	
Years to Recover Investment	N/A	N/A	1 Year	

Table 2. Impact of Revisions on ROI

ROI. In Table 1, class sizes of 20 or 30 students contribute very little, if anything, to the capitalization of development costs. If we were to assume $50,000 in development costs (including faculty time/wages), then with a class size of 30 it would take 10 offerings of the course to recover the development costs. This scenario implies no ongoing revisions to the course material that would lead to increased design costs and faculty costs. Thus scale is important in technology-mediated courses and is one of the reasons traditional correspondence education has fared well, for once the course materials are produced for a traditional print-based course, a single faculty member can address the needs of many students spread out over time.

Similarly, frequent revisions to a distance education course lead to a reduced shelf life of the product, which prohibits the distance education unit from enjoying any economies of scale. Fixed costs, as shown in Table 1, make up over 50% of the cost structure in small classes and are traditionally recaptured over several offerings of the same course using the same instructional materials. Therefore, in a scenario of short shelf life, the course does not exist long enough in its current form to contribute to the recovery of costs associated with development.

As illustrated in Table 2, if university X develops a course for $50,000, including faculty time, and offers this course in a semester-based model every Fall and Spring and revises the course material every year, then fixed costs associated with faculty and instructional design increase and push out the time required to cover the initial investment in the material.

Academic departments also need to determine how to address the needs of both resident instruction students and distance education students. The distance education students, who tend to be adults, play an important role in this point, for they come with certain expectations and a market-driven approach to online learning. They bring with them expectations in terms of immediacy of feedback, small class size, and the desire to communicate with core faculty and support staff whenever it fits their schedule. They are, as discussed by Brookfield (1985) and Blocher, Montes, Willis, and Tucker (2002), respectively, independent learners and self-regulated in their approach to distance education. Therefore, to ease the increased demand put on academic departments through online distance education, the faculty within each department must determine if the increased student load is handled by reducing the faculty's emphasis on research and service or by using graduate assistants or teaching assistants. Neither of these options is an ideal situation for either the faculty or the students. Further, distance education impacts faculty depth whether full-time faculty are paid based on an extra compensation model or on a faculty load buy-out model. Most academic departments, especially at the graduate level, have limited faculty depth, with each faculty member addressing only one particular research specialty.

Other negotiated activities that are likely to impact ROI are legal questions around ownership of material and royalities. With the introduction of more online course material within institutions of higher education, we are just starting to see universities and colleges struggle with the

impact of material ownership. While it can be argued that any material developed by a faculty member is done under the auspices of his or her contract with the institution, universities and colleges have been lax on this matter in terms of intellectual property developed for books and journals. In the case of the publication of books and journal articles, the institutions did not play the legal card of ownership, since the prestige of their faculty publications outweighed the complexities of the ownership battle. However, now with so much intellectual material being developed by faculty with the overt assistance of administrative staff and university infrastructure, it has become a point of debate and one that is often negotiated between the institution and the faculty member. This aspect of intellectual property is especially important to distance education units, as they need the rights to reuse the material in ways that will benefit the students over time.

All of these factors mentioned in the preceding discussion have a negative impact on ROI. Further, any structure of loosely coupled entities results in time-intensive negotiations and prolonged time to market for distance education courses. The bottom line is that within an organized structure of loosely coupled entities such as exists at most traditional public institutions of higher education, the faculty are in the driver's seat in terms of negotiated agreements. Most faculty are already taxed for time and, while they may agree with the concept of outreach and extending learning opportunities to students at a distance, they see no need to do so unless there are financial and time benefits for them. This leaves the distance education unit in an unfortunate situation of not being able to adequately control costs or economies of scale in terms of development and delivery. Further, certificate offerings or those that are time-sensitive often miss the market window due to prolonged negotiations.

This quantification of actual costs, which are normally not tracked and are buried in accounting practices outside of most academic units, is difficult to justify with academic partners during negotiations. Academic departments are not used to paying for outside services associated with marketing, instructional design, and student services. While they realize these costs exist for the institution, they are usually not a part of their units' annual budget. Most of these services are allocated within the administrative structure and factored into the overall university or college budget.

Private Non-Traditional Institutions of Higher Education

In examining the organizational structures of universities like the University of Phoenix or National University (see Figure 2), we see a situation where the organizational structure is more corporate, bureaucratic, and hierarchical. In these organizations, the administration is in control of many more facets of institutional operations. These institutions have full-time faculty, but their responsibilities and roles are defined by the administration. Curriculums may be dictated, course schedules and class times are set by the administration, and it is not unusual to use part-time faculty to control costs. Within this organizational structure, ROI on new initiatives is not negotiated, but determined by administration. For distance education initiatives, economies of scale are controlled, faculty pay is set, course design models are predetermined for stated shelf lives, and each student receives a very similar experience with set instructional learning outcomes. This is not to say that one organizational structure leads to a better or worse learning experience for the students or that faculty are valued in one over another; this is strictly a commentary on how these structures impact return on investment. In institutions with bureaucratic structures, there is limited negotiation over class size, which courses are offered at a distance, and the shelf life of each course. Every aspect of the operation is mapped out to ensure a financial ROI. Even within the face-to-face offerings of these institutions, if a course is not covering its costs and contributing to covering fixed costs, then it will likely be canceled or dropped from the curriculum unless it is a loss leader required in the support of upper-division courses.

Older Forms of Distance Education and Impact on ROI

While the organizational structure can have a positive or negative impact on return on investment for distance education initiatives, it can be argued that the form of distance education has as much to do with ROI as the organizational structure of the college or university. Earlier forms of distance education—such as print, educational radio, and television—had and continue to have the means of reaching a mass audience. Programs and courses produced for these media have long shelf lives, are independent study in terms of format, and are supported by traditional print-based correspondence. Courses of this type have tremendous economies of scale, limited time commitments required by faculty, and a controlled revision schedule of once every three or more years, depending on the dynamics of the content. Therefore, whether these distance education courses are produced within a structure of loosely coupled entities or a bureaucratic hierarchy, there is limited ongoing involvement by the academic departments once the course is launched. A single faculty member can handle a large number of students spread over a long time period without any great impact on other duties or other members of the department.

As illustrated in the following example of University Y, if we once again assume a $50,000 development cost, then, as shown in Table 3, courses designed as independent, rolling-enrollment courses have tremendous economies of scale. In this example, we see that there are no ongoing instructional design expenses, marketing is fixed regardless of the number of students enrolled, and due to its nature a single faculty member may easily handle 100 or more student without any teaching assistants. The bottom line is a high-enrolling

Income/Expense	50 Students	100 Students	200 Students	
Tuition ($1,000 per student)	$50,000	$100, 000	$200,000	
Faculty	$10,000	$10,000	$10,000	
Instructional Design Costs	$0	$0	$0	
Marketing	$2,000	$2,000	$2,000	
Infrastructure	$1,000	$1,000	$1,000	
Total Fixed Costs	*$13,000*	*$13,000*	*$13,000*	
Student Services ($150/student)	$7,500	$15,000	$30,000	
Teaching Assistant (if > 30 students)			$4,000 (assumes 1 @ $4,000)	
Overhead (15% of Expenses)	$3,075	$4,200	$7,050	
Total Variable Costs	*$10,575*	*$19,200*	*$41,050*	
Total Costs	$23,575	$32,200	$54,050	
Net Income/Loss	*$26,425*	*$67,800*	*$145,950*	
Initial Investment in Development	$50,000	$50,000	$50,000	
Years to Recover Investment	2 Years	1 Year	< 1 Year	

Table 3. Mass Media Delivery in Rolling Enrollment Courses and ROI

course designed for independent study, rolling enrollment that will pay off the original development within the first year and have a ROI of 135.6% after one year (based on 100 students enrolled per year).

Departments of independent study/correspondence exemplified this form of distance education. While these departments were likely not mainstreamed units, the distance education instructors, whether full-time or part-time, were often still approved by the academic departments and the final course content was approved by the academic heads. As the distance education unit was peripheral to the organization there was little oversight or need for negotiated activity within the overall organization structure. In this type of scenario a distance education unit has more control over its cost structure and economies of scale. However, as new computer technologies have come into vogue, the integration of technology into independent learning courses will necessitate adding ongoing costs to the course delivery cost equation in terms of keeping independent learning courses open. Further, with the incorporation of technology, one may limit the number of students with whom an individual faculty member can interact, even in a rolling-enrollment course environment.

Another aspect of distance education that is introducing pressure on both cohort and rolling-enrollment models is the world of publishing. As textbook vendors bring out new editions more frequently, in order to combat the used book market, this is forcing distance education providers to revise all courses more frequently. The proposed answer to this development is to disassociate a course from any particular textbook. This may be a possible solution, but an approach that is not consistent with how faculty behave and structure content. To disassociate the course narrative from a text means the faculty must now, in essence, write an electronic form of a textbook, online, with all necessary examples, non-examples, and cases. How this development plays out is an area that distance education providers need to examine carefully.

Alternative Organizational Structures

Within traditional non-profit institutions of higher education, is there an alternative organizational structure that can be applied for new distance education initiatives that would more readily lend itself to control over return on investment? This is a difficult question, for while there are advantages to being mainstreamed within the organization, there are also political disadvantages in terms of prolonged negotiated activity. While there are positives of being tied into the resources of full-time faculty and other university or college resources, this access comes with a high political price and a loss of control over operation of the initiative. Thus, is it possible to have a blended structure and approach?

What is certain is that being an administrative unit that is an integral part of an organization of loosely coupled entities leads to every move being examined and questioned throughout the political structure. However, can one remove a distance education unit from within this structure and establish it as a separate entity and still have the buy-in

of faculty and academic units? Is it possible to establish the distance education unit as a for-profit entity and then contract with the academic units for faculty time and rights to offer courses at a distance? Would the distance education entity of this type also be taxed with covering all overhead expenses, in terms of facilities, power, janitorial, etc., or would these costs continue to be absorbed by central administration as they are for mainstreamed units? While an organizational arrangement of this type would remove the distance education unit from the political aspects of a loosely organized structure and make it more bureaucratic, would this truly be positive in terms of ongoing political commitment from upper administration to the continued life of the unit? Further, would a structure where faculty receive direct compensation for their course development work? Where courses are contracted to be offered in the same format for X years and where departments receive direct compensation on a per-course basis rather than on a per-student basis? Would an arrangement of this type ensure a positive ROI? There is a feeling that such a structure would reduce long negotiations with faculty and academic departments in regards to compensation and release time, and assure economies of scale.

Also, a corporate organizational structure within a traditional public institution that guarantees a positive ROI may not ensure continued existence of the distance education unit. Some, like Virtual Temple (a program initiated by Temple University) (Blumenstyk 2001) and Fathom (a program initiated by Columbia University) (Gordon 2003), have tried this approach and failed. The cause and circumstances of their failures require investigation beyond the scope of this report, but their failures are an important consideration when we examine alternative organizational structures. Further, we must ask if an institution of higher education is concerned only with the financial side of a return on investment from distance education and not the political and other soft returns that distance education may bring to students and faculty.

Further, do the economies of scale in distance education derive from our undergraduate curriculum, as they do in resident instruction, where large undergraduate class sections taught by a cadre of graduate assistants or teaching assistants provide great economies of scale and thus support the graduate degrees, where small class size does not cover direct variable costs, let alone fixed costs? Does this same dynamic play out for distance education units, when compared with resident instruction, if we remove the aspect of grants and foundation monies that faculty bring in for research? These dynamics and others that impact the ROI for courses taught at a distance need to be examined.

Conclusion

Finding an alternative organizational structure for traditional institutions of higher education that guarantees a positive return on investment for distance education units may not be possible. Within organizations of loosely coupled entities, there exist time-honored approaches to the working arrangements between the administration and the academic units. While these often lead to long, drawn-out negotiations, they do maintain a focus on important programs. If a unit or department is removed from within this structure, it may be lost in terms of importance to the institution. Also, if the distance education unit is set up as a fully for-profit venture, then it must stand on its own and absorb all related expenses that were once covered by central administration. This makes it almost impossible to show a positive ROI within a short time period.

Therefore, for traditional institutions, it is important that everyone understand the organizational structure within which the distance education unit operates. Only then can a well thought-out business plan be developed that will allow the distance education unit to eventually become solvent and contribute a positive ROI to the institution.

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Section II

Access, Cost, and Distance Education: Who Are We Really Serving?

The question of whether anyone is really making money in distance education is just one side of the equation when it comes to the educational balance sheet. On the other side is the student and the costs associated with being a student in today's higher education market. As is evident from recent congressional proposals, the escalating cost of higher education is becoming a concern for Americans and for citizens in other countries. Recent statistics show that by the year 2020 it may cost on average $12,000 per year to be a student in a public four-year institution and $54,000 per year to be a student at a private four-year institution. As estimated in one article, attendance at a private four-year college may run as high as $200,000 by 2020 (TIAA-CREF 2003). Given these figures, do we run the risk of becoming an elitist society, with only members of the upper class being able to afford a higher education and the opportunity to better themselves? As discussed by David Ward (Giegerich 2003, 1), the president of the American Council on Education, "We are in the middle of a very difficult period in financing higher education. I remain greatly concerned about the long-term viability of the social compact that has served students and families so well for more than 50 years." And what is the impact of escalating higher education costs on economic growth for the country and the growth equation for institutions of higher education? Further, what is the true purpose of an institution's distance education mission?

Institutions of higher education that are pursuing distance education initiatives must not fool themselves into believing they are opening access to a broader audience if in fact the pricing and technology structures of their ventures preclude the students they say they are serving. Institutions must be very aware of their mission and the audience(s) they serve. The mere introduction of high-end technologies, combined with ever increasing tuition rates, may disenfranchise the very students an institution says it is serving. The digital divide is a reality in all countries, developed and underdeveloped, and institutions must know who they serve.

There is no doubt that institutions of higher education have become big business. With the continued decrease in support from state governments, universities and colleges must behave more like corporations. They must figure out how to be proficient and effective while controlling costs. Further, it is unlikely that academic grants and scholarship programs will be able to keep pace with rising tuition, nor is

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it likely that students and families from lower-income and mid-income levels will be able to sustain the costs associated with student loans. We cannot anticipate that parents will be able to mortgage a lifetime of work to put even a single child through college.

Thus, where should this leave the focus of distance education?

Access to Higher Education

Access to higher education is multifaceted. One can speak of access in terms of geographic proximity, the socioeconomic status of a certain segment of student population, or access for the individual with a disability. For distance education, access has generally meant geographic, in terms of how technologies and instructional design have helped overcome the separation between the teacher and the learner. However, throughout the world, distance education has also become viewed as a means of economic access and a tool for socioeconomic advancement and mobility for the populace.

Socioeconomic barriers to educational access emerge as financial, educational, political, or one's perceived place in society, for without the necessary financial means or education levels (literacy), access to learning opportunities is not within reach. Allen and Chadwick (1996), in their review of tertiary education in the British West Indies, examined the need for adult education and the training of adult educators. They state that in Jamaica 75% of the labor force is unskilled and less than 4% of the age group 17-25 has benefitted from tertiary education. Although the University of the West Indies has had a long history of providing courses to adults through its Extra-Mural Department (now School of Continuing Studies), entrance to the university is still very limited, based on the old matriculation requirements established by the British school system. These matriculation requirements severely limit access for adults who have life experience, but did not complete secondary school. Thus, the socioeconomic status of many Jamaicans in their society is a formal barrier to participation in the programs offered through the Extra-Mural Department.

Political barriers to higher education access are often part and parcel of the cultural, geographic, and socioeconomic barriers. Political agendas of governments can act to keep a non-dominant class of people oppressed or they can lift these people out of oppression. The Highlander Research and Education Center is an example of education (literacy, organizational, etc.) that is provided in an effort to support social change within the poor rural areas of Tennessee. Since its inception in 1932 by Myles Horton, Jim Dombrowski, and Don West (Morris 1991) as the Highlander Folk School, the Center has worked to educate the poor, the non-dominant members of society, and the oppressed. Education at Highlander was not as much for individual gain as it was education to support the group needs in order to bring about social change within the democracy. Horton's view for the school's educational experience was that people could "figure out for themselves how they would solve the problems they identified" (Tjerandsen, cited in Manke 1999, 5) and issues over the years have focused on labor unions, the civil rights movement, and toxic waste. Highlander has provided and continues to provide access to learning for the disadvantaged in order to support social action and social change and to break down the socioeconomic barriers for many in the Southern states. It exemplifies access to educational opportunities for members of the non-dominant class who seek social change within the political structure of the country.

Brookfield discusses the idea of access further in a critical review of the concept of the self-directed learner. Here Brookfield states that "...as well as resources of adequate time and energy needed to make reflectively informed decisions, self-directed learning also implies that learners have access to the resources needed to act on these decisions" (1993, 238). If access to education is blocked, for any reason, then the learner has limited control over what, how, and when he or she will learn. This then limits the potential of being self-directed and confines the learning to the hegemonic institutional desires.

Underlying these different views of access is the role finances play and how wealth places one in society. For the upper middle class and the rich, wealth has been and continues to be a passport to higher education and opportunities in society. Individuals born into the upper echelon of society have not faced socioeconomic barriers that others have had to overcome, including access to the latest technologies.

Those without access to such technologies inevitably find themselves on the wrong side of the digital divide.

Educational Access and the Digital Divide

The phrase "Digital Divide" gained popularity with the publication of the Telecommunications Act of 1996 and in the subsequent Falling Through the Net studies conducted by the U.S. government. While the phrase "Digital Divide" was popularized in the past 10 years, a review of the literature finds reference to the phrase as far back as the late 1980s, where "Digital Divide" was used in regard to computer access for school-aged children in the United Kingdom (Heppell 1989). In general, the term refers to the gap between individuals, families, or communities that have access to the Internet and those without. It is also used to discuss those who have access to key information and educational opportunities and those who do not.

"This range of data indicates that nationally there exists great disparity within income levels, ethnic backgrounds, and geographic location for those with access to the new Internet technologies and those without."

While there have been numerous articles and studies published on the issue of the Digital Divide, it is difficult to get a firm grasp on the extent of the gap. While many studies define the concept in terms of those with access to the Internet within the home, others use broader definitions that look at access at home, at work, and at school. Therefore, when we read reports such as *Who's Not On-Line*, from the Pew Internet and American Life Project (Lenhart 2000), which estimates that roughly half of the adults (18+) in America still do not have internet access; or the latest *Falling through the Net* report from the U.S. Department of Commerce (National Telecommunications and Information Administration 2000), which indicates that 51% of the U.S. households had computers, we must examine the parameters of the studies. Also, most studies do not take into account access to the Internet within the community structure at libraries or other social agencies. However, what is important to explore within these studies are the ethnic and socioeconomic disparities that exist for those with and without access.

Nationally, according to the *Falling through the Net* studies of 1998 (National Telecommunications and Information Administration 1999) and 2000 (National Telecommunications and Information Administration 2000), the United States is witnessing the following trends with regard to Internet access from the home.

- Urban households with incomes of $75,000 and higher are 20 times more likely to have access to the Internet than rural households at the lowest income levels. As of October 2000, 71.7% of households with incomes over $75,000 were connected to the Internet.
- Whites are more likely to have access to the Internet from home than African Americans or Hispanics have from any location. The October 2000 report indicates that 23.5% of African American households are now connected to the Internet.
- African American and Hispanic households are approximately one-third as likely to have home Internet access as households of Asian/Pacific Islander descent and roughly one-half as likely as White households.
- While one-third of people in the U.S. use the Internet at home, only 16.1% of Hispanics and 18.9% of African Americans use the Internet from home. Also, only 18.4% of African American households have computers in the home.
- Persons with disabilities are only one-half as likely (21.6%) to access the Internet.
- Regardless of income level, Americans living in rural areas are lagging behind in Internet access. 38.9% of rural households had access as of October 2000.

Also according to the latest Pew Internet and American Life Project report, "More Online, Doing More" (Rainie and Packel 2001), Internet access indicators showed:

- 82% of those living in households with more than $75,000 income have access, compared with only 38% with household earnings below $30,000.
- 75% of those between the ages of 18-29 have access, compared with only 15% of those 65 or older.
- 71% of those with some college education had access, compared with only 37% for those with high school or less.

Of interest in this report is that, by comparison, 94% of U.S. households have telephones and 98% have televisions.

This range of data indicates that nationally there exists great disparity within income levels, ethnic backgrounds,

and geographic location for those with access to the new Internet technologies and those without. However, of significance is the high level of penetration of basic telephony infrastructure to individual homes. This single statistic leads one to believe that nationally the basic technology infrastructure exists and has been extended to most homes and communities. So it is possible for most people, technologically, to be connected to the Internet. This view is supported by the latest UCLA Internet report, *Surveying the Digital Future* (Lebo 2003), which found that, when at home, most Internet users in the United States still connect to the Internet via a dial-up modem and the ordinary twisted pair phone lines that are present in most dwellings.

The Cost of Higher Education

There have been a number of reports put out lately by the federal government and the National Center for Public Policy and Higher Education that have examined the crisis of affordability of higher education in the United States. *The College Cost Crisis*, published by Congress (Boehner and McKeon 2003), looks at how tuition for both public and private higher education has severely outpaced inflation over the past 10 years. The report states, "Over the ten-year period ending in 2002-2003, after adjusting for inflation, average tuition and fees at both public and private four-year colleges and universities rose by 38 percent" (2003, 6) and over the last 20 years tuition has increased by 202%. Further, over this same 10-year period, "the Consumer Price Index increased by 30 percent, while median family income increased by 40 percent. In that same time period, federal student aid increased by 161 percent" (2003, 4).

While there is no doubt that tuition costs for higher education have escalated and even further increases have been masked as fees (IT fees, special lab fees, etc.), we as a nation find ourselves in a Catch-22 situation. On one hand, we want our institutions of higher education to be leaders, on the cutting edge of technology advancements in research and teaching, and to have our children taught by top-rated faculty members. On the other hand, we want to contain costs and have the institutions be more accountable to the public. To be leaders in higher education takes money, as the venture is primarily labor-driven. Throughout the years there have been limited gains in productivity in higher education due to technology. While technology advances can assist in the running of the physical plant, a substantial amount of a college's operating budget resides in salaries.

Thus, what is the cost of capping expenditures and trying to hold tuition increases to a minimum? Does this mean fewer admissions and a lower number of students served? Does it mean teaching with outdated technology, which has been a battle in the K-12 sector for decades? Or does it mean larger and larger class sections, which many would argue will dilute the learning experience?

Throughout this debate, what is critical, as discussed by the report *Losing Ground* (National Center for Public Policy and Higher Education 2002), is the impact of escalating higher education costs on the lowest income quartile and the 2nd-lowest income quartile of the nation. Tuition in 2000 at a public four-year college represented 25% of the income of these families and tuition over the past 10 years has risen much faster than their family income in the bottom two quartiles. Further, for the 1st, 2nd, and 3rd quartiles, it takes between 25% and 120% of a family's income to pay for tuition at a private four-year college.

> "…we as a nation are truly losing ground in terms of our social contract with the public in terms of access to higher education."

To complicate the picture further, for families in the lower quartiles, funding for education in the form of grants has fallen in terms of what they can cover. In a 13-year period from 1986 to 1999, Pell Grants went from covering 98% of tuition to only 57% and state grants went from covering 75% of tuition to only 64% (National Center for Public Policy and Higher Education 2002). Also, the federal financial aid picture has shifted from one of grant support to one of guaranteed student loans. In the period 1989-1999, for those in the lowest income quartile, the average debt in constant dollars for seniors finishing college rose from $7,629 to $12,888 (National Center for Public Policy and Higher Education 2002).

Thus, according to the authors of the report, we as a nation are truly losing ground in terms of our social contract with the public in terms of access to higher education. The authors of *Losing Ground* state, "The gap in college attendance rates between high- and low-income Americans has widened, even among those who are prepared academically for college" (2002, 4).

Distance Education and Who We Serve

Unlike what has happened with consumer products, where market economics for the consumer product sector has played out as expected, by chasing the lowest wages for production, higher education is expensive because it is labor-intensive and providers of higher education cannot simply shift labor costs to another country in order to provide a lower-cost education. Therefore, what is the impact of escalating higher education costs and technology requirements on society?

Many of us involved in distance education have prided ourselves over the years in providing access to educational opportunities. However, if our operations are tied into a university's tuition structure and organizational behavior, can we continue to fly the access flag? Are we, like the rest of higher education, keeping access from those who need it most? As discussed above, the gap in college attendance between the lower income quartiles and the higher income quartiles is widening and the rapid pace of technology continues to disenfranchise a large portion of the population from higher education. What should our role be as distance educators at our institutions? Obviously, our mission is not about technology but about access, whether by print or other media. However, we must be very cognizant about who we serve or say we serve within our organizations.

While providers of higher education cannot simply shift labor costs to another country in order to provide a lower-cost education, students can shift where they take their courses. If higher education costs in the United States and other developed countries get too expensive, will consumers of education simply seek out less expensive distance education alternatives from recognized institutions overseas? And if they do, what is the impact on colleges and universities within the United States and other countries? It is likely that corporate America will not be overly concerned where individuals obtain their degree as long as they have the demonstrated skills required to complete the job. And what does this mean for the individual students? If they have less debt when leaving college, will this not help stimulate the overall economy through more disposable income?

Although the prospect of seeking out other educational opportunities overseas may be an option for students from the middle class, where does this leave students from the lowest-income quartile? Are they faced with mortgaging their lives through loans to get an education, knowing it will take the next 20-30 years to pay off the debt? Further, will the federal aid package support tuition for overseas institutions? Or are we as a nation content to ignore the educational needs of the lowest-income families? Are they simply left out of the higher education equation?

These are all critical questions, ones we must address as a nation and as institutions of higher education. Distance education is a possible vehicle for opening access, but it cannot do so under the normal organizational structure and behavior of most traditional institutions. We must think outside the box to make distance education work to support our nation's educational and social contract with its people.

Thus, while we struggle on one side of the educational balance sheet to have a positive return on investment with distance education initiatives, on the other side of the balance sheet we must strive to keep access for students open to distance education and higher education.

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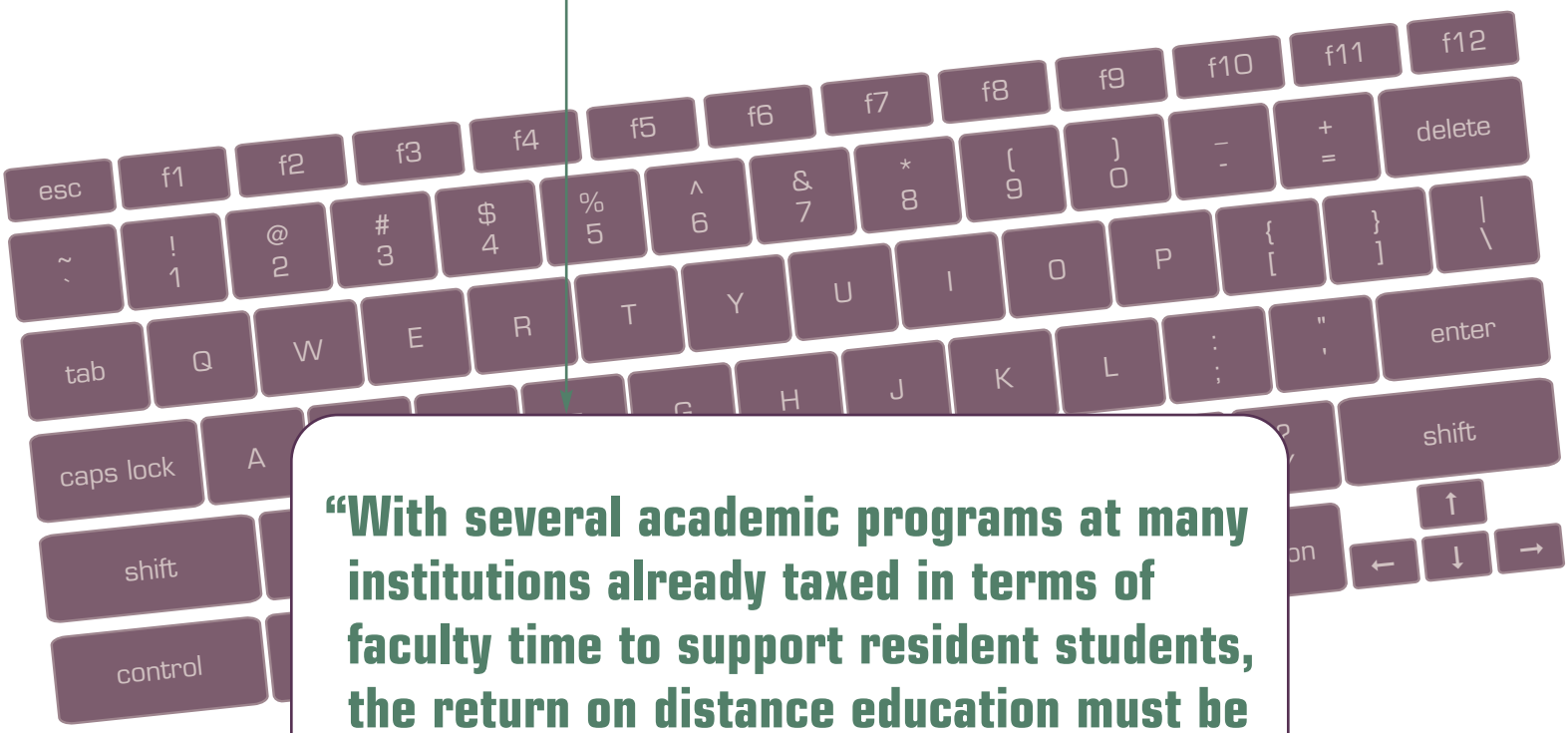

"With several academic programs at many institutions already taxed in terms of faculty time to support resident students, the return on distance education must be financial and not merely altruistic."

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The Distance Education Balance Sheet:
What are the Measures of Success for Institutions and Students?

by Rick Shearer

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